REMARKS

Applicants amend claims 1 and 9, and cancel claim 2. Claims 1 and 4-16 remain pending. Applicants request that the Examiner reconsider and withdraw the rejection of the said claims made in the Office Action dated April 25, 2008, based upon the amendments to claims 1 and 9 and the remarks below.

Silence with regard to any of the Examiner's rejections is not acquiescence to such rejections, but rather a recognition by Applicants that such previously lodged rejection is moot based on Applicants' remarks and/or amendments. Specifically, silence with regard to Examiner's rejection of a dependent claim, when such claim depends from an independent claim that Applicants consider allowable for reasons provided herein, is not an acquiescence to such rejection of the dependent claim, but rather a recognition by Applicants that such previously lodged rejection is moot based on Applicants' remarks and/or amendments relative to the independent claim (that Applicants consider allowable) from which the dependent claim depends.

Section 112 Rejection

The Examiner rejected claim 9 under Section 112 as indefinite, stating that "[i]t is not clear how, in the case when only one image is being used, the "images are orthogonal to each other."

In response, Applicants have amended claim 9 as follows (deletion shown by strikethrough, addition by underlining):

wherein ~~the one~~two or more 2D images are orthogonal to each other.

This amendment adds no new matter.

Respectfully, Applicants suggest that this amendment responds fully to Examiner's rejection, and that, as amended, claim 9 is not indefinite.

Section 102-103 Rejection

The Examiner rejected claims 1, 2 and 4-16 under Section 103(a) as being unpatentable over D'Urso (U.S. Patent 6,112,109) in view of DiGioia et al (Computer Assisted Orthopedic Surgery) and Background art.

In response, Applicants have canceled claim 2, which formerly depended from independent claim 1, and have incorporated the substance of claim 2 into claim 1 as follows (addition shown by underlining):

> generating a three dimensional (3D) model of a bone, <u>wherein the 3D model is based on one or more two dimensional (2D) images of the bone and one or more 3D bone templates.</u>

Respectfully, Applicants suggest that claim 1, as amended, is allowable over the cited art.

The Examiner stated that D'Urso disclosed the above limitation of former claim 2, now incorporated into claim 1, that the model was based "one or more two dimensional (2D) images of the bone and *one or more 3D bone templates.*" (Emphasis added.) Doing so, the Examiner did not refer to a specific passage of D'Urso which disclosed the use of 3D bone templates. Rather, the Examiner stated that in D'Urso "[t]he contour of the bone is based on modifying 3D template model of the bone to generate a 3D model of the bone," and cited D'Urso, col. 5, lines 11-33.

Respectfully, Applicants disagree. The cited portion of D'Urso (col. 5, lines 11-33) describes a process whereby "scanning data" relating to an article is input into a computer (lines 20-21), "a plurality of two-dimensional cross-sectional images of the article" are computed from the scanning data (22-24), and "a three dimensional coordinate data set for the article" is computed "from the plurality of two-dimensional cross-sectional images." (lines 25-28) Finally, "a three dimensional representation of said article" is generated "by a constructive modeling process" using the "three dimensional coordinate data set." (lines 29-33) Thus, the D'Urso process requires scanning data as its starting point, and then utilizes two-dimensional images of an object

derived from the scanning data in turn to generate a three-dimensional representation of the object. There is *no* reference in D'Urso to the use of a "3D bone template" in generating the three-dimensional representation.

Claim 1, as amended, is fundamentally different from D'Urso. In claim 1, as amended, the fundamental approach is to generate a three-dimensional model of a bone by using, *not just two-dimensional images of the bone in question,* but also *one or more 3D bone templates.* These templates are *not* derived from scans of the specific individual bone being modeled. Rather, they represent *pre-existing* conceptions of what that bone is likely to resemble. Then, the two-dimensional (e.g., X-ray) images taken of the actual bone may be used to modify the pre-existing 3D bone template(s) to conform more nearly to the bone in question. (For example, the methods described in the specification at, e.g., paragraphs 57, 65, 66 may be used.)

One of the advantages of the method set forth in amended claim 1 is that a three dimensional model of a particular bone may be generated even though only 2D images of that specific bone have been taken. The method combines the 2D images with the preexisting 3D bone template to generate the 3D model. This has the advantage, as set forth in the specification (see, e.g., paragraphs 58, 59) of avoiding the need to carry out scanning such as MRI or CAT scanning of the bone in question to generate the 3D model. As discussed above, D'Urso, by contrast, does not use 3D bone templates, and begins its process with scanning data from the object in question.

Thus, the use of one or more 3D bone templates in claim 1 as amended is not disclosed in D'Urso. (Indeed, on the occasion when D'Urso uses the term "template," he does so in a very different way, which in no way suggests claim 1. D'Urso discloses that where a prosthesis is to be implanted surgically, the "three dimensional representation" generated by his method may include a region surrounding the area for the implant, "said surrounding region providing a <u>template</u> for accurate fit of a prosthesis." (col. 6, lines 55-59)) Thus, nothing in D'Urso suggests the use of a 3D bone template with one or more two dimensional (2D) images to generate a three dimensional (3D) model of a bone.

By the same token, nothing in DiGioia or the Background art suggests the same.

It follows that claim 1, as amended, is now allowable.

Claims 4-16 depend from claim 1. Insofar as claim 1 is allowable for the reasons set forth above, claims 4-16 also are allowable.

Double Patenting Rejection

The Examiner entered a non-statutory obviousness-type double patenting rejection of claims 1, 2 and 4-16 over claim 12 of commonly-owned U.S. Patent 6,701,174, and over claims 1-44 of commonly-owned U.S. Patent 6,711,432. Without conceding that the Examiner was correct in so doing, but in order to facilitate prosecution hereof, Applicants have filed a Terminal Disclaimer of the terminal part of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of U.S. Patents 6,701,174, and 6,711,432.

CONCLUSION

Applicants submit that the pending claims are now in condition for allowance, and request such action.

The Commissioner is hereby authorized to charge an extension fee, together with any further amount required for proper filing of this paper, to our Deposit Account No. 06-1448, Reference CMV-005.03.

Applicants invite the Examiner to contact the Applicants' Attorney if questions arise regarding this Response.

Respectfully submitted,

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